



(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
29.11.2000 Bulletin 2000/48

(51) Int. Cl.⁷: **H01S 3/225, H01S 3/03**

(21) Application number: 00111269.7

(22) Date of filing: 25.05.2000

(84) Designated Contracting States:
**AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU
MC NL PT SE**
Designated Extension States:
AL LT LV MK RO SI

• Shinozaki, Hiroyuki
Fujisawa-shi, Kanagawa, 251-0862 (JP)
• Barada, Toshimitsu
Tokyo, 143-0011 (JP)
• Nakazawa, Toshiharu
Chigasaki-shi, Kanagawa, 253-0027 (JP)

(30) Priority: 25.05.1999 JP 14516899
15.07.1999 JP 20185199

(71) Applicant: **EBARA CORPORATION**
Ohta-ku, Tokyo (JP)

(74) Representative:
Wagner, Karl H., Dipl.-Ing. et al
Wagner & Geyer,
Patentanwälte,
Gewürzmühlstrasse 5
80538 München (DE)

(72) Inventors:
• Sekiguchi, Shinichi
Yokohama-shi, Kanagawa, 235-0022 (JP)

(54) **Discharge-pumped excimer laser device**

(57) A discharge-pumped excimer laser device has a casing (1), a pair main discharge electrodes (2), a cross-flow fan (3) for producing a high-speed laser gas flow between the main discharge electrodes (2), the cross-flow fan (3) having a rotatable shaft (4) projecting from opposite ends thereof, magnetic bearings (8,9,10,11), the rotatable shaft (4) being rotatably supported by the bearings, protective bearings (13,14,15) for supporting the rotatable shaft (4) when the magnetic

bearings are not in operation, and a motor (12) for actuating the cross-flow fan (3). The magnetic bearings include radial magnetic bearings (8,9,10) disposed on the opposite ends of the rotatable shaft (4). One of the radial magnetic bearings which is disposed closely to the motor (12) has a bearing rigidity greater than the bearing rigidity of the magnetic bearing that is disposed remotely from the motor.

FIG. 3

